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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,622	11/09/2001	Giacomo Stefano Roba	09877.0189	5933

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
HOFFMANN, JOHN M	

ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
08/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/986,622	ROBA ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 june 2008*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *51-69* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *51-69* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 June 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 61-69 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The 4th to last line of claim 61 refers to an "angled path". This phrase, interpreted in light of the specification, is confusing as to what is meant. The relevant discussion of the path occurs in the specification at page 31, lines 7- 19. Specifically, at line 10, it refers to 152 as the “upward-angled annular path 152” and at line 12-13 it states “flow of condition gas 152”. Lines 10-11also states the path 152 is "defined by upper surface 111 of distribution ring107 and distributor casing top 103." However figure 4 shows that the paths 152 curl upwards. And figure 5 shows paths 152 as having an inwardly curving path. One would be confused as to what the claims require when one looks at the entire specification for at least the following reasons:

1) The paths 152 seem to be a flow of gas, however moving gas is generally not structure - and yet claim 61 requires the distributor body has the paths.

2) Whereas the specification states the paths are 'annular', the drawings fail to confirm such.

3) 111, 107 and 103 at best only define an upper and lower limit of a part of the paths shown in the drawings. One cannot reasonable ascertain whether the claimed "path" can be unbounded path that gas can flow, or whether they are limited to paths that are bounded/defined by structure.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 51-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson 2002/0029591 (or Harvey 5284499) in view of Kazuya JP 08091862 (as per Applicant's translation thereof), Strackenbrock 5160359, Harding 4988374 and Bair 4547644 and optionally in view of and Kaiser 4030901.

Dickinson (at figure 1) and Harvey (at figure 2, col. 4, lines 60-68 and col. 5, lines 4-10) disclose a furnace body having an upper end and a lower end and comprising at least a susceptor, an induction coil and an insulating material disposed between said susceptor and said induction coil. However the bottom portions and distributor bodies of Dickinson and Harvey are not of the specific type require by the claims. They also clearly show the muffle as claimed.

Kazuya teaches that using the tapered shape structure (that appears to be the same or nearly the same as Applicant's bottom chimney) decreases fluctuations in the outer diameter of the preform. It would have been obvious to use the Kazuya teaching to improve the Dickinson or Harvey apparatus, for the advantages that Kazuya teaches. See previous rejections.

Bair is cited to reinforce Kazuya – See col. 7, lines 4-6 which teaches that a conical shaped extension also will reduce air drafts.

As to the a distributor body having a substantially annular distribution chamber (See Harding's feature 14), a distribution ring (see the ring on which Harding's 14 rests),

and an outlet in fluid communication with an interior of the muffle(see Harding's features 13 and 8a), the distributor body configured to receive conditioning gas (see feature 15 of Harding) substantially tangentially with respect to the substantially annular distribution chamber, the distribution ring being adapted to uniformly introduce and forcedly direct a first portion of the conditioning gas into the muffle in a downward direction towards said furnace body and to direct a second portion of the conditioning gas to an upper portion of the substantially annular distribution chamber to create a buffer of conditioning gas having a pressure higher than a pressure outside the drawing furnace. These functional limitations related to the flow of gas are inherently capable of being met, depending upon the operating conditions being used.

Harding teaches various advantages for using the distributor (cols. 1-2) and most notably "far better utilization" (col. 1, lines 54-55). It would have been obvious to use the Harding distributor to far better utilize the Harvey or Dickenson apparatus. It would have been obvious to provide inlets to permit tangential introduction of gas as taught by Strackenbrock for even distribution of gas as previously indicated.

Claim 52: See figure 2 of Strackenbrock. One would immediately infer that the conduit that feeds the gas would be disposed along the centerline of the inlet 24. and thus tangentially to the chamber.

From MPEP 2144.01 Implicit Disclosure:

"[I]n considering the disclosure of a reference, it is proper to take into account not only

specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

See also, *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir 1985).

Claim 53 requires “fins” in the outlet. Examiner's dictionary reflects that fins are generally "projecting ribs" - or “external" or “appendage”. The dictionary also reports “something resembling a fin”. Examiner could find nothing that suggests that applicant intends a narrow or specialized meaning for the term. Nor is there an art-recognized meaning for the term. Examiner sees nothing which indicates that applicant intended "fin" to exclude structure such as the structure which defines Harding's path. In other words: Applicant's drawings show large rectangular shaped channels, whereas Harding has small channels (13) of unspecified shape. However size and shape typically are obvious matters of design choice.

From MPEP 2144.04

B. Changes in Shape
In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.).

From MPEP 2144.04

A. Changes in Size/Proportion
In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because

limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).
In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Examiner can find no evidence that the size or shape of the channels impart any criticality. Nor does Examiner find anything which reasonably suggests that applicant's use of the term "fins" is intended to impart any size restriction whatsoever to any feature of the apparatus, nor impart any shape restriction whatsoever to any feature of the apparatus. Rather since the functionality is substantially identical (both structures serve to direct gas flow from an annular chamber to a fiber preform in a downward direction along plural channels) the claims are deemed to be met.

Alternatively, see the prior Office actions which set forth the treatment of vanes as admitted prior art (Official Notice).

Claim 54: As per the 7/7/2005 Office action (page 12), it is admitted prior art that it is well known to use porous media to evenly distribute air pressure. It would have been obvious to use a porous media to more evenly distribute the gas to all ports.

Claims 55-60 parallel previous claims 40-45 respectively. They claim no new limitation beyond what was previously examined and found to be obvious. Please refer

to the file history as to why the specific limitations would have been obvious. Applicant offers no argument which sets forth any patentable limitation in these claims.

Claim 61

Dickinson (at figure 1) and Harvey (at figure 2, col. 4, lines 60-68 and col. 5, lines 4-10) disclose the **furnace body** having an upper end and a lower end and comprising at least a susceptor, an induction coil and an insulating material disposed between said susceptor and said induction coil.

The claimed **muffle** is disclosed for example at col. 5, lines 4-10 of Harvey and [0036] of Dickinson.

The claimed **bottom portion**: Dickinson and Harvey clearly show bottom portions that are connected to lower end of the furnace. However the decreasing cross-sectional area is not disclosed. Kazuya teaches that using the tapered shape structure (that appears to be the same or nearly the same as Applicant's bottom chimney) decreases fluctuations in the outer diameter of the preform. It would have been obvious to use the Kazuya teaching to improve the Dickinson or Harvey apparatus, for the advantages that Kazuya teaches. This aspect is also discussed in previous rejections. Bair is cited to reinforce Kazuya – See col. 7, lines 4-6 which teaches that a conical shaped extension also will reduce air drafts.

The claimed **distributor body**: Whereas Dickinson and Harvey each clearly have a distributor body, neither is of the type claimed.

As to the a distributor body having a **substantially annular distribution chamber** (See Harding's feature 14), a **distribution ring** (see the ring on which Harding's 14 rests), and an **outlet in fluid communication with an interior of the muffle**(see Harding's features 13 and 8a), and the distributor body **configured to receive conditioning gas** (see feature 15 of Harding) **substantially tangentially with respect to the substantially annular distribution chamber.**

Harding teaches various advantages for using the distributor with **at least one downwardly angled channel** (feature 13) and most notably "far better utilization" (col. 1, lines 54-55). It would have been obvious to use the Harding distributor to far better utilize the Harvey or Dickenson apparatus. It would have been obvious to provide inlets to permit tangential introduction of gas as taught by Strackenbrock for even distribution of gas as previously indicated.

As to the "**at least one upwardly angled path**" (as interpreted in light of the specification): as pointed out in the rejection under 35 USC 112, the disclosure shows a path in empty space - there is no structure which limits 152 (or at most only a portion of 152 is limited by structure). Since applicant's path is based on flow of gas - i.e. it relies on how the structure is used - it is not structure per se. Any empty space inherently has paths - because gas can flow in any direction. To look at it another way: wind can flow in any direction - it has any path desired. Gas that flows through 8A will inherently flow towards an area with lower pressure – that is - upwardly.

Claims 62-69 parallel claims 52-59 and are met for the same reasons.

It is noted that any and all reference to prior Office actions/claims are meant to reflect the claimed invention - NOT THE CLAIMS THEMSELVES. In other words: the various versions of presented claims throughout prosecution merely use different words to cover substantially the same features. That is: the "furnace body" of claim 51 has no discernable difference between the other furnace bodies previously claimed. The same applies to the muffle, the bottom portion, the distributor body and the functional limitations. As shown by the art of record (especially the art applied throughout the prosecution) all of these features were already known to those of ordinary skill for substantially the same advantages that applicant discloses.

Response to Arguments

Applicant's arguments filed 6/12/2008 have been fully considered but they are not persuasive.

It is argued that Examiner does not explain how Harding's disclosure inherently discloses the claimed gas flows. Examiner did not explain because it is clearly evident to one skilled in the art. One knows one can cause any gas to move in any direction desired by applying either kinetic energy to the gas in the desired direction – such as blowing out a candle. Or by applying potential energy to the gas - that is creating a pressure gradient across the direction in which one desires gas to blow – like blowing up a balloon, or even deflating a balloon. It is exactly the same way that applicant

"forcedly directs" the gas. More concretely: one can place a vacuum above the furnace to cause gas to go up. Or one can place a pressurizing device at the bottom of the furnace. Or one can pulse gas into 15, and seal the bottom which will cause gas to flow down and then up.

It is noted that Applicant's claims do not require any source of gas to cause the gas to flow, rather one must connect a source of gas to 29 for the actual function to occur. Since applicant's invention can have additional structure for functioning, the prior art can be met by adding additional features to create the gas flow. This is NOT to be interpreted as an indication that such additional structures are inherent or would have been obvious. Rather that applicant has recited very broad functional limitations that does not exclude any possible ways of causing gas to flow down (however briefly) and some other gas to flow upwardly (however briefly).

As the court stated in *In re Schreiber*:

> A patent applicant is free to recite features of an apparatus either structurally or functionally. *See In re Swinehart*, 58 C.C.P.A. 1027, 439 F.2d 210, 212, 169 USPQ 226, 228 (CCPA 1971) ("[T]here is nothing intrinsically wrong with [defining something by what it does rather than what it is] in drafting patent claims."). Yet, choosing to define an element functionally, i.e., by what it does, carries with it a risk. As our predecessor court stated in *Swinehart*, 439 F.2d at 213, 169 USPQ at 228:
>
> > where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

128 F.3d 1473, 1478 (Fed. Cir. 1997).

It is noted that the functional limitations do not set forth when these functions must occur - they do not even require the flows are capable when a preform is in place.

The fact that applicant is able to cause gas to flow in both up direction and down directions, by taking the action of providing a pressurized gas source to the claimed furnace - suggests that claimed functionality can be created by applying a pressure differential across any free path in any furnace preform – and thus is an inherent functionality of any optical fiber preform furnace with a free path.

Examiner can find no rationale or evidence in the record that the prior art furnaces do not inherently meet the functional characteristic limitations.

This is NOT to be taken as a suggestion that amending the claims to recite what structure there actually is, rather than what it does would define patentable subject matter.

It is also argued that no obviousness rejection has been established because Examiner supplied no evidentiary support for the existence and meaning of the theory must be provided. Examiner did not supply evidentiary support for the same reason Examiner did not make written description rejection for under 35 USC 112 -first paragraph: because one can immediately understand how the path is capable of directing a second portion of the conditioning gas upwards. The present specification (page 31, lines 7-12) says that the ring is such that the "gas can flow through the

upward-angled annular path 152…into the chamber" – Examiner could find nothing that says actually "directs" the gas – but they are the same thing. One immediately understands they are the same thing - that is why no written description rejection was made. If gas "can flow" from point A to point B, and can be "directed" to from point A to point B. One also immediately understands that the inner/main bore of the Harding ring can direct gas upwards - it is a vertical passage. The Office is under no obligation to provide evidentiary proof for such routine concepts such as making a gas move from one position to another.

Likewise for creating a pressure buffer - nothing is needed - except pressure and an empty volume to have the pressure. Applicant does not describe anything being done to create a buffer. It is clearly evident to one ordinary skill.

As to the argument that Harding only shows gas flowing in a downward direction. This does not detract from the inherent capability that the apparatus can be used to direct a gas flow in an upward direction.

The arguments regarding claim 61 have also been considered. Although Harding does not disclose the claimed "path" there is nothing which suggests that Harding does not inherently have a path (as interpreted in light of Applicant's specification which indicates that a "path" is just the route of that the gas flows and need not have any structure to define the path.) Just like applicant's invention requires the use of additional features before gas will flow (e.g. a gas source), Harding also would require extra features to get an upward gas flow - e.g. a vacuum, or a gas source, or a

fan and even baffles. Claim 61 merely sets forth what the ring in terms of what it is capable of doing rather than what it is.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann
Primary Examiner
Art Unit 1791

Jmh
/John Hoffmann/
Primary Examiner, Art Unit 1791